

**Instruction 51-1228  
5-4-06**

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**Because every industry has a leader**

## **Installation Instructions: S&S® Super E Carburetor for 2004-05 Harley-Davidson® Sportster® Models**

### **Supplement to Instruction 51-1012**

#### **DISCLAIMER:**

S&S parts are designed for high performance, off road, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely effect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways, especially in states where pollution laws may apply. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

The words Harley®, Harley-Davidson®, H-D®, Sportster®, Evolution®, and all H-D part numbers and model designations are used in reference only. S&S Cycle is not associated with Harley-Davidson, Inc.

#### **SAFE INSTALLATION AND OPERATION RULES:**

Before installing your new S&S part it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.

- Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.
- If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.
- Before performing any installation steps disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.
- Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with a S&S part on it.
- Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.
- Use good judgement when performing installation and operating motorcycle. Good judgement begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgement. Start installation when you are fresh.
- Be sure all federal, state and local laws are obeyed with the installation.
- For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.
- Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.

#### **IMPORTANT NOTICE:**

Statements in this instruction sheet preceded by the following words are of special significance.



#### **WARNING**

**Means there is the possibility of injury to yourself or others.**



#### **CAUTION**

**Means there is the possibility of damage to the part or motorcycle.**

#### **NOTE**

*Other information of particular importance has been placed in italic type.*

**S&S recommends you take special notice of these items.**

#### **WARRANTY:**

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twelve (12) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 12 month warranty period or within 10 days thereafter.

In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

#### **ADDITIONAL WARRANTY PROVISIONS:**

- (1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.
- (2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.
- (3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.
- (4) S&S parts are designed exclusively for use in Harley-Davidson and other American v-twin motorcycles. S&S shall have no warranty or liability obligation if an S&S part is used in any other application.

**NOTE:** When applicable, all carburetor mounting brackets and hardware supplied in kit must be installed to secure carburetor and air cleaner backplate assembly or air horn rigidly to engine.

### **⚠ CAUTION**

- Improperly mounted carburetor could loosen unexpectedly, resulting in air leak, poor performance and possible damage to engine or carburetor.
- Incorrect combinations of mounting hardware may cause mounting bolts to bottom out in holes or inadvertently contact other parts possibly causing damage to engine or carburetor components.

### **⚠ WARNING**

Improperly mounted carburetor may break free in event of collision or other vehicle accident creating a fire hazard with potential personal injury to operator/others.

### **⚠ CAUTION**

Over tightening idle mixture screw may cause irreversible damage to carburetor body.

### **⚠ CAUTION**

If insulator block is not installed, lower manifold bolt may damage carburetor bowl causing possible gasoline leak.

### **⚠ WARNING**

Gasoline is extremely flammable and explosive under certain conditions. Do not smoke around gasoline. Gasoline fumes are toxic when inhaled. Any gasoline leak or spill constitutes a health and fire hazard.

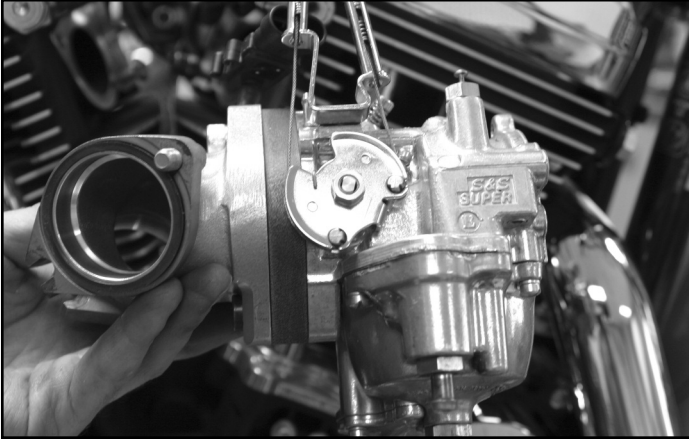
**NOTE:** Installation of an S&S® E Carburetor on a 2004-2005 Harley-Davidson® Sportster® is somewhat different than on any other Sportster® model. For this installation, the majority of the kit will be loosely assembled on workbench before fitting it to your motorcycle.

- 1- Start the installation by disconnecting the battery, shutting off the fuel supply valve and refer to your factory service manual to aide in removing the fuel tank.
- 2- Identify the manifold to carburetor hardware included in the kit. There is a standard socket head screw ( $\frac{3}{8}$ -16 X 1.5") and a low head socket screw ( $\frac{3}{8}$ -16 X 1.5"). The low head socket screw is mounted in the lower manifold hole position.

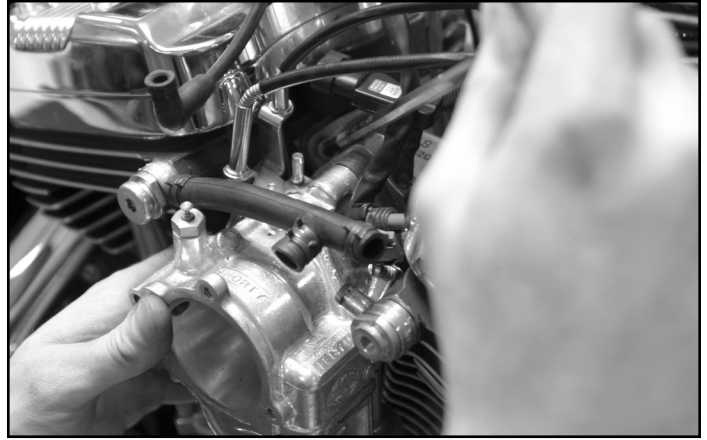


Picture 1

- 3- Loosely connect the manifold and phenolic block and O-ring to the carburetor body—be sure the low head socket screw is in the bottom manifold position. Once everything is aligned properly, tighten the bolts. Now install the throttle cable guide and then the throttle cables. **See Picture 2.** Position the carburetor/manifold assembly onto the cylinder heads. Thread the socket head and hex head bolts with flat washer loosely in place. At this point install the breather bolts and hose. **See Picture 3.**

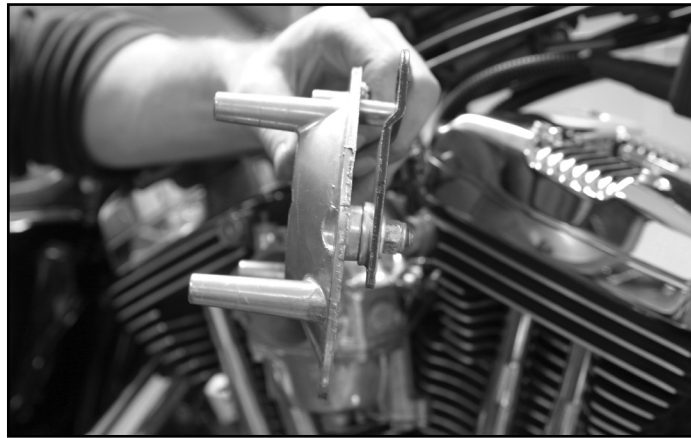


Picture 2



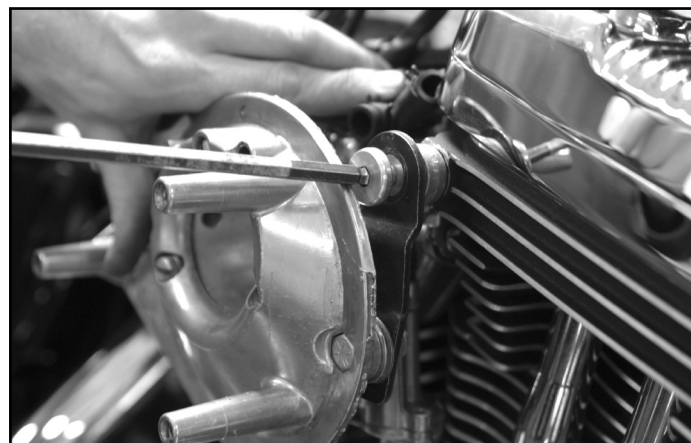
Picture 3

- 5- Hold the “S” shaped carburetor backing plate against the front cylinder breather bolt and then put the backing plate in position. This will give you a good idea of which spacers you need to space the backing plate to the bracket. Connect the bracket and spacers to the backing plate loosely with the  $\frac{5}{16}$ -18 X 1” bolt, washer and lock nut. Also, connect the fast idle bracket to the backing plate at this time.



Picture 4

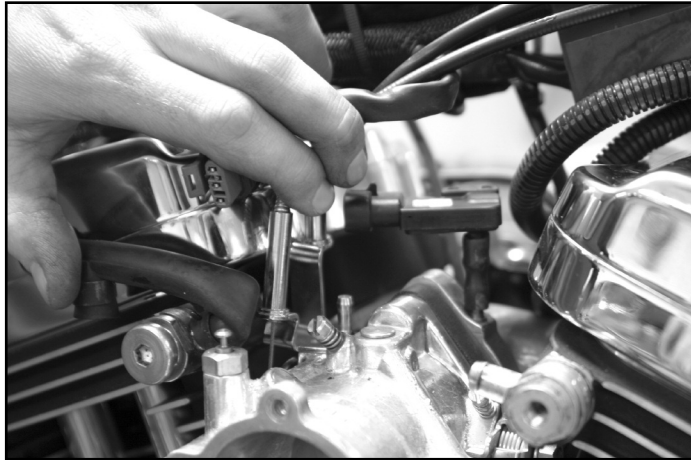
- 6- Mount the carburetor backing plate with the gasket to the carburetor body. Be sure to use blue threadlock on the flat-blade screws. Be sure that carburetor is sitting level and tighten the “S” bracket to backing plate bolt to 16 ft-lbs. and tighten the head breather bolts to 16 ft-lbs.



Picture 5

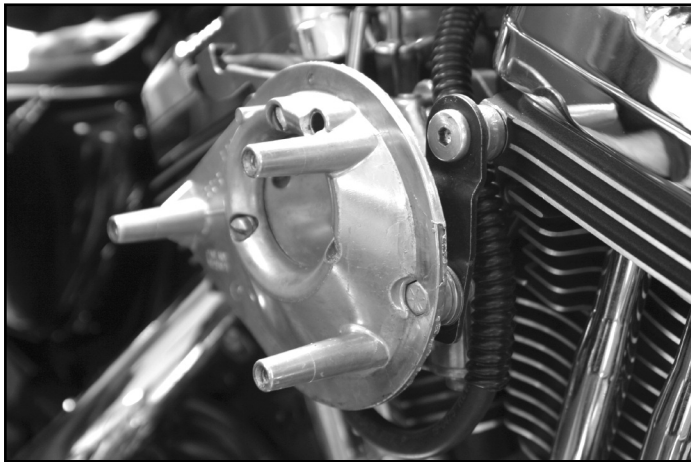
Now go back and tighten the manifold to the cylinder heads. The hex heads are torqued to 16 ft-lbs. and the socket head screws are torqued to 16 ft-lbs.

- 7- Cut a short length of hose and mount the MAP sensor on the manifold vacuum vent. Next, mount the vacuum operated petcock hose on the carburetor breather vent.



Picture 6

- 8- Slide the plastic sheathing over the included fuel line. Run the fuel line and sheathing behind the carburetor backing plate as shown, then connect to the carburetor fuel inlet to the straight portion of the fuel line using the included hose clamp to secure it. Run the fuel line to the fuel supply valve, making sure it will not interfere with the throttle cables and secure the line with an included hose clamp.



Picture 7

- 9- Install the air cleaner and S&S® Teardrop cover using blue threadlock on the Phillips head screws. Put the gas tank back on, reconnect the battery and follow the tuning instructions starting on page 14 of Instruction 51-1012.



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